MORPHOMETRIC DATA

						TROPHIC CLASSIFICATION	**KNOWN EXOTIC SPECIES**

Watershed Area (Ac.):	750	Max. Depth (m):	31.1	Flushing Rate (yr¹)	0.2
Surface Area (Ac.):	239	Mean Depth (m):	10.1	P Retention Coef:	0.84
Shore Length (m):	4,500	Volume (m³):	9,798,500	Elevation (ft):	1479

| Year	Trophic class	Known Exotic Species
		Variable Milfoil
1991	OLIGOTROPHIC	
2001	OLIGOTROPHIC	

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Good	>/=5 samples and median is < threshold but > 1/2 threshold value.
	pH	Bad	>10%, with a minimum of 2, samples exceed criteria, with 1 or more by a large margin.
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	Chlorophyll-a	Very Good	>5 samples and median is < 1/2 threshold.
Primary Contact Recreation	E. coli	Good	Geometric means < criteria; however at least 1 exceedance of the single sample criteria occurred.
	Chlorophyll-a	Very Good	At least 10 samples with 0 exceedances of criteria.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.
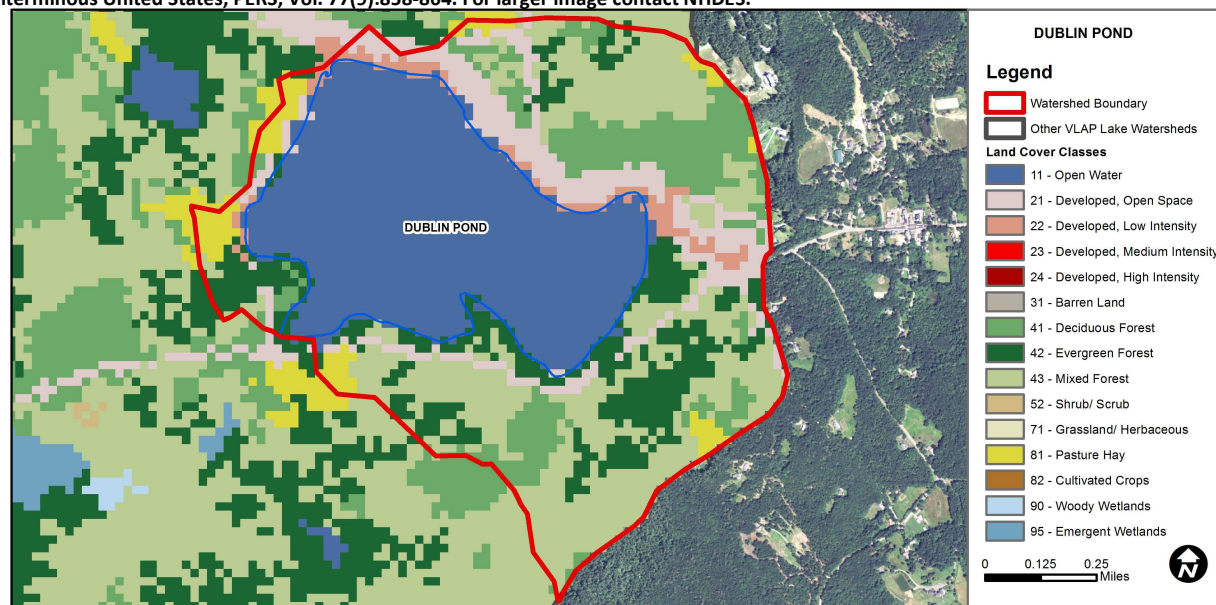
Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	34.6	Barren Land	0	Grassland/Herbaceous	0
Developed-Open Space	10.1	Deciduous Forest	11.18	Pasture Hay	3.3
Developed-Low Intensity	2.82	Evergreen Forest	13.45	Cultivated Crops	0
Developed-Medium Intensity	0	Mixed Forest	24.63	Woody Wetlands	0
Developed-High Intensity	0	Shrub-Scrub	0	Emergent Wetlands	0

OBSERVATIONS AND RECOMMENDATIONS (*Refer to Table 1 and Historical Deep Spot Data Graphics*)

- **CHLOROPHYLL-A:** Chlorophyll levels were very low and well below the state median. Visual analysis of historical data indicates stable chlorophyll levels since monitoring began.

- **CONDUCTIVITY/CHLORIDE:** Deep spot conductivity and chloride were slightly greater than the state medians. Visual inspection of historical data indicates stable epilimnetic conductivity since monitoring began.

- **E. COLI:** E. coli levels were well below state standards for surface waters on each sampling event.

- **TOTAL PHOSPHORUS:** Deep spot and near shore phosphorus levels were low and well below the state median. Visual inspection of historical data indicates stable epilimnetic phosphorus since monitoring began.

- **TRANSPARENCY:** Non-viewscope transparency was much lower in 2013 and particularly low in June potentially a result of stormwater runoff from significant storm events prior to sampling. Viewscope transparency was much better than non-viewscope and likely more accurate of lake transparency. Visual inspection of historical data indicates slightly variable transparency between years.

- **TURBIDITY:** Deep spot turbidity was low.

- **pH:** Epilimnetic and Metalimnetic pH levels were sufficient to support aquatic life; however Hypolimnetic pH was lower than desirable range 6.5 – 8.0 units. Visual inspection of historical data indicates slightly variable epilimnetic pH between years.

- **DISSOLVED OXYGEN:** Dissolved oxygen levels were high throughout the water column and spiked in the metalimnion likely due to layers of algae.

- **PHYTOPLANKTON:** A healthy and diverse phytoplankton population was present in July.

- **RECOMMENDED ACTIONS:** Maintain high water quality by identifying areas of erosion in the watershed and implementing stormwater best management practices to reduce sediment and nutrient transport to the lake. Keep up the great work!

Dissolved Oxygen Temperature Profile July, 2013

Dublin Lake Phytoplankton Population

Greens	2%
Cyanobacteria	5%
Golden-Brown	29%
Dinoflagellates	10%
Diatoms	54%
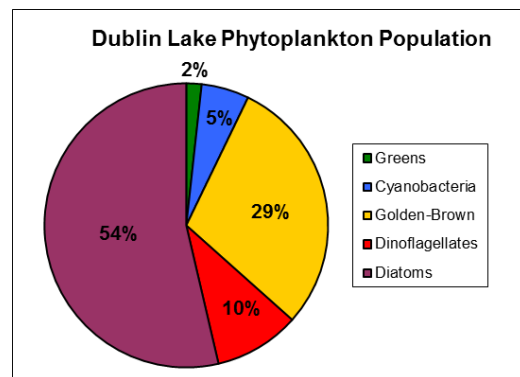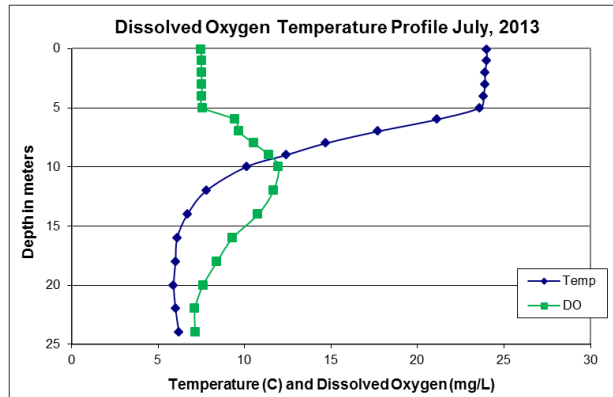
Table 1. 2013 Average Water Quality Data for DUBLIN LAKE									
	Alk.	Chlor-a	Chloride	Cond.	E. Coli	Total P	Trans.		Turb.	pH
Station	mg/l	ug/l	mg/l	uS/cm	#/100ml	ug/l	m		ntu	
							NVS	VS		
Boat Landing					50	3				
Dublin Lake Club					10	3				
Epilimnion	4.85	1.65	12	72.5		4	5.80	7.85	0.56	6.85
Metalimnion				71.6		4			0.34	6.83
Hypolimnion				74.5		6			0.49	6.34
Womens Club					15	3				

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.
Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m^3
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.
Chloride: < 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation	Parameter	Trend	Explanation
pH	N/A	Ten consecutive years of data necessary.	Chlorophyll-a	N/A	Ten consecutive years of data necessary.
Conductivity	N/A	Ten consecutive years of data necessary.	Transparency	N/A	Ten consecutive years of data necessary.
			Phosphorus (epilimnion)	N/A	Ten consecutive years of data necessary.

Historical Trend Epilimnetic Conductivity and pH

Historical Deep Spot Chlorophyll-a, Epilimnetic Total Phosphorus & Transparency Data